

of the vertex being 3 to 20 mm promotes achieving a desired space efficiency characteristic of said container, and the amount of the contents of said plastic container being 800 to 3000 ml and the radius R of curvature of the vertex being 3 to 20 mm promotes achieving a desired self-sustainability of said container. --

REMARKS

The Office Action of March 30, 2000, has been carefully reviewed, and in view of the following remarks, reconsideration and allowance of the pending claims are respectfully requested.

In the above Office Action, claims 1-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,212,661 to *Adell*. For at least the reasons set forth below, Applicant respectfully traverses this rejection.

The present invention is directed to a plastic container comprising a bottom portion which has a substantially rectangular bottom surface, a trunk portion which is formed by four planes which rise up vertically from respective sides of the bottom surface and which is substantially rectangular pipe-shaped, a mouth portion whose surface area of a portion surrounded by a horizontal cross-section is smaller than the surface area of said trunk portion, and a shoulder portion which is narrowed down from said trunk portion to said mouth portion. As further recited in each of the independent claims of the present invention, the amount of the contents of said plastic container is 800 to 3000 ml, the average thickness of said trunk portion is 0.2 to 0.7 mm, the ratio of a length H of said trunk portion to a length L of a diagonal line of a rectangle formed by the outer periphery

of a horizontal cross section of said trunk portion (H/L) is 2 to 4, and each of the vertexes of the rectangle formed by the outer periphery of the horizontal cross-section of said trunk portion forms an arc-shaped configuration so that a radius R of curvature of the vertex is 3 to 20 mm. Applicant respectfully submits that these strictly defined features are not obvious to one skilled in the art when desiring to achieve a container which is space efficient, which has a thin thickness, which is self-sustainable, and which can be easily crushed for recycling, disposal or the like. Applicant respectfully submits that each of the above specific properties for the present invention are required in order to obtain a container having these desired characteristics, as recited in newly added claims 21-24, and that, without a specific teaching for the same, the advantages of the present invention cannot be obtained.

As described in the specification on page 22, lines 11-18, the preferred contents of the container is within a range of 800 to 3000 ml. if the amount of the contents is more than 3000 ml, it may be difficult for the container to obtain self-sustainability and configuration maintainability without increasing the thickness of the container, such as by adding a rib structure thereto, and thereby falling into the disadvantages of the prior art. As such, the first limitation within the claims of having the amount of the contents of the plastic container being 800 to 3000 ml is a first requirement for obtaining a container having the advantages and desired characteristics of that of the present invention.

Each of the independent claims further requires that the average thickness of the trunk portion is 0.2 to 0.7 mm. As described also in the specification on page 22, line 23 - page 23 , line 2, the average thickness of the trunk portion is generally 0.2 to 0.7 mm in



order to easily allow the resultant container to be crushed and disposed of in an environmentally friendly manner. Thus, this specific requirement of the claims lends itself to obtaining the required characteristic of the container.

The independent claims also recite the required aspect ratio of having a length H of the trunk portion to a length L of a diagonal line of a rectangle formed by the outer periphery of a horizontal cross section of the trunk portion (H/L) is 2 to 4. By so defining the relative dimensions of the container in the present invention, space efficiency is assured, as described in the specification on page 24, lines 7-16.

And finally, each of the independent claims recites each of the vertexes of the rectangle formed by the outer periphery of the horizontal cross-section of said trunk portion forms an arc-shaped configuration so that a radius R of curvature of the vertex is 3 to 20 mm. As described in the specification on page 24, line 17 - page 25, line 11, the radius of curvature of the corners of the substantially rectangular cross section must be carefully chosen so as to balance the self-sustainability and the space efficiency characteristics of the container. That is, if the radius is less than 3 mm, the self-sustainability of the container is lowered and the washability of the interior is lowered. On the other hand, if the radius is more than about 20 mm, the configuration of the trunk portion is fairly cylindrical and space efficiency is lowered.

Thus, each of the recited limitations in the independent claims are required for obtaining a container having the desired characteristics of space efficiency, a thin thickness, self-sustainability, and easy crushability.



In contrast to these specific limitations, the primary reference upon which the Examiner relies, *Adell*, does not disclose or suggest any of said features or the resulting characteristics of the present inventive container.

Rather, *Adell* relates to a hand grip mounted to a container and a configuration of the container to which the hand grip is mounted. The object is to provide a configuration which makes handling the container easier. In the specification thereof, the container structure is described as a substantially rectangular pipe-shaped configuration having a square cross section with rounded corners. However, in the invention of *Adell*, a mounting portion is necessary for mounting the hand grip on the container, and the mounting portion is provided at the side surface of the container. Further, specification of the *Adell* reference does not include any details as to the thickness or aspect ratio of the container.

Applicant respectfully submits that it is impossible to obtain a container which has a thin thickness, flat side surfaces, space efficiency, self-sustainability and which is easily crushed, merely by defining the external configuration as a square cross section with rounded corners, as in *Adell* at col. 2, lines 47-48. In the present invention it is thus necessary to define at least the radius of curvature of the corners of the substantially rectangular cross section, the aspect ratio and the thickness of the container, and such definitions would not be obvious to one skilled in the art.

In *Adell*, the disclosed structures for reinforcing the container strength and ensuring self-sustainability include added ribs or protrusions on the side surfaces, which thereby increases the side strength and makes the container more difficult to be crushed, as described in the background of the invention. Further, washability of the container, which



is a further object of the present invention, is poor. The cited prior art does not disclose or suggest a container having flat or planer side surfaces wherein the strength of the container is ensured by defining the detailed structures of parts other than the side surfaces. The present invention provides a container which has a space efficient structure, and also has a thin thickness, and is self-sustainable and can easily be crushed. Therefore, it is respectfully submitted that the present invention is patentable over the art of record.

Further, the container being molded by injection blow molding is recited in claims 7-10 because injection blow molding provides the sides of the container with uniform thickness and uniform strength, thus providing a container which meets the objects of the present invention.

CONCLUSION

With the foregoing amendment and remarks, it is respectfully submitted that pending claims 1-20 are in condition for allowance, and notice to that effect is respectfully requested.

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If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned counsel for Applicant at his earliest convenience.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: Wendi L. Weinstein
Wendi L. Weinstein
Registration No. 34,456

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

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